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ABSTRACT

A research proposal to study the effect of multisensory teaching methods in first-grade reading is presented. The focus is on sex differences in learning and in multisensory approaches to teaching. The project will involve 10 experimental and 10 control first-grade classes in several Southern California schools. Both groups will be given IQ, readiness, and nonverbal personality tests at the beginning of the school year. The experimental classes will be taught reading with a multisensory (look-say-hear-trace-write) approach while the control classes will learn reading with the more traditional visual basal reader approach. At the end of the school year all students will be tested on the California Achievement Test, Primary Battery to measure their reading achievement. The experimental and control groups will be compared on reading achievement and on various emotional adjustment factors, and this data will be analyzed. Included in the proposal are a dissertation abstract and two articles on proprioceptor stimulation by the project director. Data on budgeting and a bibliography are included. (AL)

EDO 54919

CALIFORNIA COUNCIL ON CRIMINAL JUSTICE

Application is hereby made for a grant under Section 301(b) of the Omnibus Crime Control and Safe Streets Act of 1968 (PL 90-351) in the amount and for the purposes set forth in this application.

(Official Use)

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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1. Short Title of Project: (Do Not Exceed One Typed Line)

Investigation of Proprioceptor Stimulation

2. Type of Application: (Check One)

[X] Original [ ] Revision [ ] Continuation of Grant No.

3. Region

4. CCCJ Support	5. Grantee Contribution	6. Total Project Cost (1st year)	7. Duration of Project
$ 143,110.	$ 280,000.	$ 423,110	May 1, 1971 to June 30, 1974

8. Applicant or Implementing Agency or Governmental Unit: (Name, address and telephone)

The Evangelistic Church of Christian Dynamics, Inc., (A non-profit foundation)
3759 Atlantic Avenue
Long Beach, California 90807
Phone: Aread Code: 427-58-37

9. Project Director: (Name, title, address and telephone)

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Long Beach, California 90807
Phone: Area Code: 213 - 427 58 37

10. Financial Officer: (Name, title, address and telephone)

Trustee for Research Grant Funds
MASON AND GATTO, CPAs
3405 West Imperial Highway
Inglewood, California 90303
Phone: Code 213- 673 1222

11. Official Authorized to Sign Application: (Type name, title, address and telephone)

Sivan E. Caukins, Ph. D.
Director
Psychological Counseling Center
3759 Atlantic Avenue
Long Beach, California 90807
Signature Sivan E. Caukins Jr.

12. Project Summary: Summarize, in approximately 200 words, the most important parts of the statement of project plan presented in application, briefly covering project goals and program methods, impact, scope and evaluation.

This project is competitive with the Russians in their use of techniques derived from "brain-washing". The neurological key is proprioceptor stimulation. Schools do not adequately use proprioceptor stimulation in teaching methods. This results in failure, difficulty and frustration for many students- particularly boys and minority students. Delinquency and group violence may be developed in our schools due to negative group conditioning through failure or difficulty in the classroom. Blocking the male's need for physical movement creates serious problems.

The proprioceptors have basic integrative functions for the brain. There are pronounced sex differences on how this is accomplished. Sex differences are almost totally ignored by our schools in teaching methods. Motor movement must be made a part of the method.

The project has ten experimental and ten control class rooms in the 1st grade. The significant difference between groups is in the teaching method only. The Look-Say-Hear-Trace-Write Method, a multi-sensory approach is used in the experimental group. The Control group will use the Calif. State Text Method or a See-Memorize-Decode by recognition for learning basic academic skills. An analysis of variance of results and a comparison of the emotional adjustment of each group is expected to show MARKED improvement of achievement in basic academic skills, emotional adjustment, group attitudes, and a creative expression of hostility for those students in the experimental group using proprioceptor stimulation (multisensory).

13. Index -- Please Indicate Respective Page Numbers

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RE 003845

14. BUDGET SUMMARY FOR GRANT PROJECT

	TOTAL FIRST YEAR*			TOTAL SECOND YEAR*			TOTAL THIRD YEAR*		
BUDGET CATEGORY	TOTAL	GRANT FUNDS	MATCHING FUNDS	TOTAL	GRANT FUNDS	MATCHING FUNDS	TOTAL	GRANT FUNDS	MATCHING FUNDS
PERSONAL SERVICES	$285,460	$105,460	$180,000	$295,141	97,141	$198,000	$319,000	101,000	$218,000
TRAVEL	2,000	2,000		2,000	2,000		2,000	2,000	
CONSULTANT SERVICES	2,000	2,000		1,000	1,000		1,000	1,000	
SUPPLIES & OPERATING EXPENSES	75,900	25,900	50,000	81,900	26,900	55,000	88,000	27,900	60,100
EQUIPMENT	57,500	7,500	50,000	57,500	2,500	55,000	62,600	2,500	60,100
TOTAL PROJECT COST	423,110			437,541			472,600		
GRANT FUNDS REQUESTED		143,110			129,541			134,400	
GRANTEE CONTRIBUTION			280,000			308,000			338,200

*Budget should be based on a grant year, (12 month or shorter period if the project is less than 12 months) rather than calendar year or fiscal year.

CALIFORNIA COUNCIL ON CRIMINAL JUSTICE
DETAILED PROJECT BUDGET

BUDGET CATEGORY	TOTAL	GRANT FUNDS	MATCHING FUNDS	
			CASH	IN-KIND
15. Personal Services				
A. Salaries				
Principal Investigator and Project Director....50% of time.....	$12,500	$12,500		
Investigator-Psychologist(50% time)	10,000	10,000		
Investigator-Psycholgoist (50% time)	10,000	10,000		
Evaluator-Statistician- and Writer. 50% of time	10,000	10,000		
Executive Secretary 100% time	8,000	8,000		
Research Assistants (2) 100% time	14,120	14,120		
Teaching Aids (40) 2 hrs/day $2.50/hr	34,300	34,300		
Teachers Institute	2,250	2,250		
Teacher Substitute Days	4,290	4,290		
Class room teachers (20).....				$180,000.00
B. Employee Benefits				
none				
TOTALS	$285,460.00	$105,460		Estimate $180,000.00
16. Travel				
Mileage allowance at 20,000 miles at 10¢/mile	2,000	2,000		
TOTALS	2,0000	2,000		
17. Consultant Services				
Director of Teacher Training U of C 10 days at $100/day Dr. Kenneth C. Bailey	1,000	1,000		
Specialist on Motor Movements Dr. Newell C. Kephart	1,000.	1,000		
TOTALS	2,000	2,000		

DETAILED PROJECT BUDGET (CON'T)

BUDGET CATEGORY	TOTAL	GRANT FUNDS	MATCHING FUNDS	
			CASH	IN-KIND
18. Supplies and Operating Expenses				
Trade Books circulated among all class rooms	$5,000.00	$5,000.		
Tests for 20 classes in exp- 600 students pluss 600 randomly selected children @ $1.00 each	1,200.00	1,200		
Office supplies	1,500.00	1,500		
Duplication of materials and instructions	500.00	500		
Final report - 50 copies @ $3 / page for a total of 20 pages	3,000.00	3,000		
Computer rental - cost	1,500.00	1,500		
Phone- all calls long distance covering two counties @ $75/month	900.00	900		
Services- Trustee Account of Mason & Gato CPAx, $700/month	8,400.00	8,400		
University of California at Irvine Institution allowance for holding teacher work shop throughout the school year	3,900.00	3,900		
Operating expenses of the three co-operating school districts plus supplies normally used in the first grade class rooms.(20.Class.rooms)	50,000.00			$50,000
TOTALS	$75,900	$25,900		Estimate $50,000
19. Equipment				
One spelling box for ea child 600 @ $3 each	$1,800	$1,800		
typewritters for each class room 20 @ $100 each	$2,000	$2,000		
office typewritter	450	450		
One listening post per building. 4 @ $125	500	500		
Video Taping system for recording- one	2,500	2,500		
Video tapes	400	400		
Tapes for listening posts	100	100		
20 class rooms and equipment in rooms	50,000			Estimate $50,000
TOTALS	$57,500	$7,500		$50,000
20. TOTAL PROJECT COST	$423,110	$143,110		$280,000
21. Percent of Total Project Cost	100%	34%		66%

BUDGET NARRATIVE

The major expenses of the budget will be borne by three school districts. This includes the El Rancho Unified School District in Pico Rivera, the Little Lake School District in L. A. County, and the Anaheim City School District in Orange County. These schools will pay the salaries of all teachers participating in the project. In addition, the Districts will pay all costs of maintaining the school rooms, supply all equipment and supplies except those needed to conduct the investigation. These are listed as "in-kind" contributions.

Grant funds are requested to pay the costs covering personnel, equipment, and supplies necessary to successfully conduct the investigation. In this regard the project is a "bargain" for the California Council on Criminal Justice.

Due to three school districts being involved with somewhat different salary schedules and 20 teachers involved and each one at a somewhat different salary rate, an estimate has been made as to the value of these contributions.

The value of the "in-kind" contributions has been estimated on the extreme conservative side. For example, in the control and experimental groups there are 20 teachers having a student population of 600. In addition, there are provisions for a random sampling of another 600 students or an additional 20 teachers. If a figure of $10,000 is taken as the yearly average of each teacher considering retirement, sick, and fringe benefits, this would equal the sum of 40 X $10,000 or $400,000 in teacher salaries alone. The grantee contribution has been estimated at only $280,000 which does not include the expensive equipment, buildings, maintenance, or administrative costs. As the effort involved in obtaining a true figure would require a firm of accountants, this task was beyond the scope of preparing this proposal. Therefore, the amounts have been purposely estimated at a conservative low level.

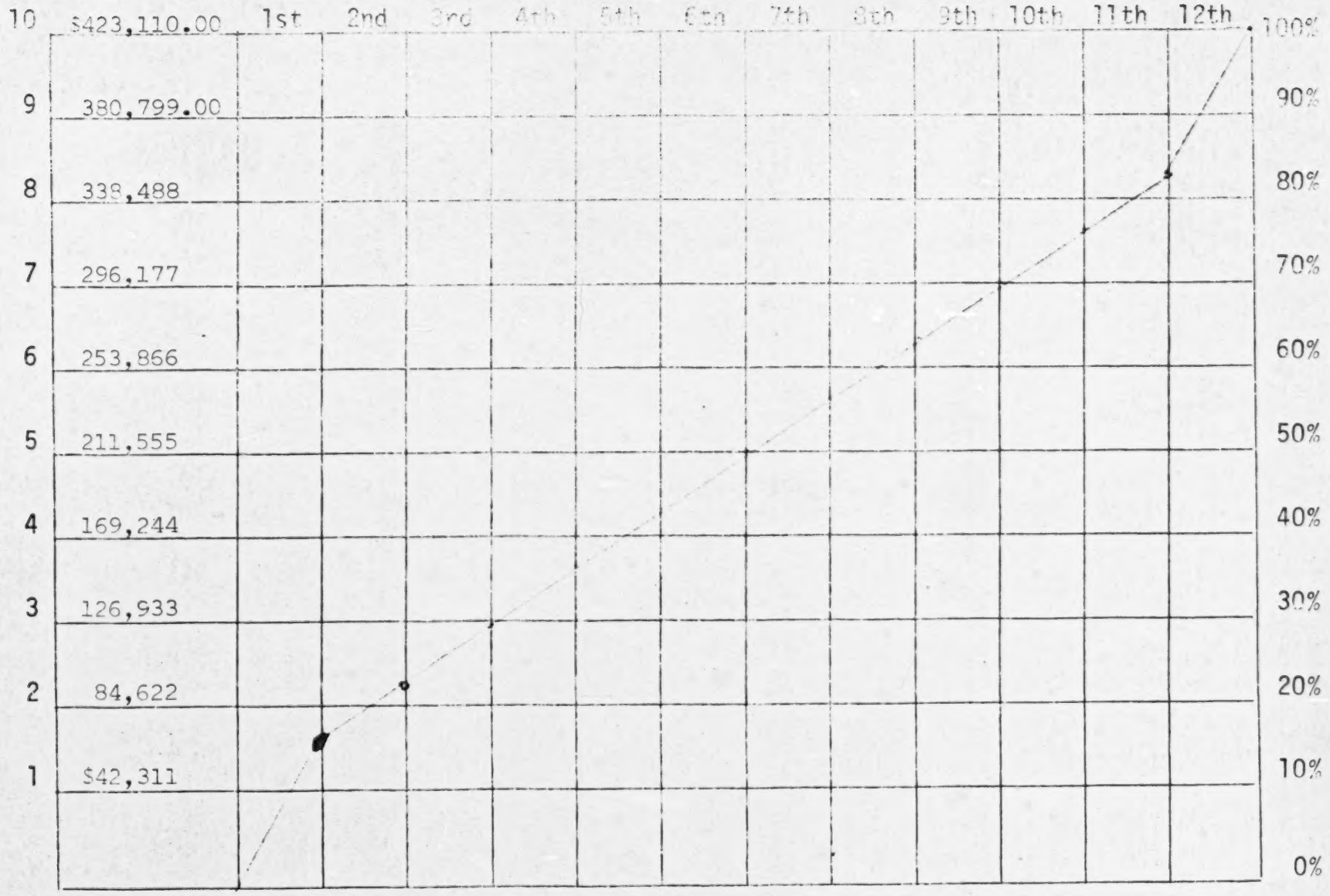
Mason and Gato have been made Trustee for the Research Grant Funds. They will have the responsibility of negociating a loan on the contract with the bank, the payment of all funds, keeping all records, making all reports, paying the necessary taxes, and collecting the various salary records on the teaching assistants from three seperate school districts.

Two teaching assistants have been provided for each control and experimental class room. The multi-sensory teaching method using proprioceptor stimulation requires a great deal more clerical time and individual instruction. During the second year, only one teaching assistant has been provided each class room for two hours a day. During the third year, an assistant will be provided for only one hour.

Typewritters have been proved in each class room due to the requirement that each child's story must be typed immediately after being written. The teaching assistant can do this for the teacher. Until the child develops the necessary skills, the child individually dictates each story to the teacher. The word each child traces must also be individually prepared by the teacher or the teacher's assistant.

The cost of using a multi-sensory approach in the class room using proprioceptor stimulation may increase the cost of instruction initially, the long range effect will be to sharply reduce educational costs. If a small portion of the educational remedial programs can be reduced, the savings would be enormous compared to the cost of a teaching assistant. In addition there are the other factors of violence, delinquency, and emotional problems which may be the most expensive part of education. 5

23. Graphic Representation of Costs - By Month



24. Other Sources of Funding

DATE	AGENCY REQUESTED	FUNDS REQUESTED	STATUS OF REQUEST
Sept 25/70	NIMH, U. S. Public Health, HEW	$ 180,715.00	Requested MH 19960-01 be revised and resubmitted.
Dec 21/70	NIMH, U. S. Public Health, HEW	$ 155,388.00	Revised MH 19960-01 NOT TO BE FUNDED.
		$	
		$	
		$	
		$	

RESOLUTION of the EVANGELISTIC CHURCH OF CHRISTIAN DYNAMICS, INC.
A non-profit private foundation chartered by the State of California on April 22, 1969, Corporate No. 568015, Internal Revenue Service Letter of Determination dated July 8, 1969, Serial LA:EO: 69-695, L-178, Code 414: EO:CHK/(213) 688-4886.

WHEREAS the Evangelistic Church of Christian Dynamics, Inc., desires to undertake THE INVESTIGATION OF PROPRIOCEPTOR STIMULATION to be funded in part from funds made available through the Omnibus Crime Control and Safe Streets Act of 1968 administered by the California Council on Criminal Justice.

NOW, THEREFORE, BE IT RESOLVED that Sivan E. Caukins, Jr., the Director of the Psychological Counseling Center in Long Beach is authorized to submit the attached Application for Grant for Law Enforcement Purposes to the California Council on Criminal Justice for its consideration, and

BE IT FURTHER RESOLVED that in the event that the California Council on Criminal Justice consents to fund the project, Sivan E. Caukins, Jr. is authorized to execute on behalf of the Evangelistic Church of Christian Dynamics, Inc. the contract for the grant for law enforcement purposes.

BE IT FURTHER RESOLVED that the applicant agrees to provide the required matching funds to said project.

BE IT FURTHER RESOLVED that grant funds received hereunder shall not be used to supplant ongoing law enforcement expenditures.

Sivan E. Caukins, Jr.
President-Treasurer

I hereby certify that the foregoing is a true copy of the resolution adopted by the Board of Directors in a meeting thereof held on the 23rd of February, 1971 by the following vote:

Ayes: Sivan E. Caukins, Jr., Neil Roger Coombs, William H. Edwards
R. J. Thomas

Noes: None

Absent: Florence A. Morgan, Wilman F. Wilson

February 23, 1971

William H. Edwards, Secretary

Greater investigation may be needed in the part played by our schools in the development of negative group attitudes, violence, juvenile delinquency, and the failure of so many normals particularly boys in learning to read and spell. Schools are the first group experience for many children. In the early formative years, frustration, failure, negative group conditioning, and treating boys and girls the same, may be extremely destructive of the emotional health of so many of our children

Two noted educators, Postman and Weingartner have this to say about the curricula of most schools: "They do not seem to recognize the fact that boys are different than girls. This is exceedingly odd, since almost everbody else has noticed the differences"

School produced problems seem to be definitely related to sex. Frances Bentzen reports that pathologic conditions, including learning and BEHAVIORAL disorders, are three to ten times more frequent among male students than among female students of the same chronological age. In this same report, Kopel and Geerded's study of clinics, further reported reading disabilities by sex, and found that 78 percent of all referrals were male, and that, in the case of mentally retarded children with associated reading disabilities, 94 per cent were boys and 6 percent were girls.

Educators, and police authorities who have to deal with the problems produced by our schools, may need to be more concerned with the methods used in the beginning school years as much as we do with the content. Soviet Educators and Psychologists may be far ahead of the United States in this regard. A. A. Smirnov states, "The subject of the investigations of Soviet psychologists is not the child's thinking in itself, but the process of his thinking in the solution of mathematics, in applying the rules of spelling, in learning literary or scientific tests." A. L. Shnirman is even more concerned with the method when he states, "Man's consciousness and the psychological qualities of his personality are formed and express themselves in activity." Soviet Psychologists are concerned with the motor physical activity of the children.

In the United States, Newell C. Kephart, a recognized authority of learning problems states, "Behavior develops out of muscular activity, and so-called higher forms of behavior are dependent upon lower forms of behavior, thus making even these higher activities (intellectual skills) dependent upon the basic structure of the MUSCULAR activity upon which they are built. The importance of motor skills in perception have been pointed out by many educators, a list which includes Frostig and Horne, Valett, and Kagerer. The look-say-hear-trace-write method, as developed by Fernald effectively utilized a muscular motor method for remedial reading.

Within recent years, the Communists have developed a particularly barbaric form of learning called "Brainwashing". The distinguished scientist, I. P. Pavlov, the father of Conditioning Learning Theory, started experimenting "Brainwashing" techniques with human

beings during the last ten years of his life. He called the process a cortical inhibition of the higher cerebral function. He developed techniques which could shatter the established pattern of human personality so that fragments could be integrated into new structures of memory, judgment, and emotion more in line with the desires of the Communist doctrine.

Pavolv's interest in experimenting with humans was aroused when his laboratory was accidentally flooded in Leningrad in 1924. His dogs were trapped for several days by the flood. When the dogs were finally rescued, their muzzles were just sticking out of the water. For several days they had to strain physically to keep their noses above the water to stay alive. This MUSCULAR strain was accompanied by coldness, hunger, exhaustion, and fear.

After being rescued, Pavlov noticed that his dogs had gone into a state of profound desperation. They had not only lost interest in their food, but in the normal activities of a dog's life. There was no barking and no rushing about as is common to happy dogs. Their movements were slow and infrequent. To them, life had seemed to lost its luster. most interest of all was the fact that in this state, their conditioned reflexes or previous learning was abolished. Pavlov found that he could now condition them according to an entirely different pattern.(Schwarz- 1960)

One of the interesting constants in "Brainwashing" may be the previously unnoticed part that kinaesthesis, (motor stimulation or proprioceptor stimulation), plays in the process. Through the effective use of proprioceptor stimulation, sometimes called kinaesthesis- our position or MOVEMENT sense, tremendous changes can take place in learning or personality. In this regard both Lifton and West have substantiated Pavlov's work in creating artifical mental breakdowns.

As any battle-seasoned sergeant in the Marine Corps knows it is not what you say, hear, or see that counts, BUT ONLY WHAT YOU DO. The "smooth talking" car salesman knows a picture may be worth a thousand words. However, the only way to get you to buy that new car is to get you inside and physically experience the act of driving the car. What our body tells us and what our body does may constitute the most effective type of learning.

Schools must use all our sense modalities in the learning of basic academic skills. This may not only be important for the learning process (the prevention of school failures) but may be a critical factor in the formation of healthy group attitudes, prevention of violence and emotional problems, and in the formation of delinquency.

Beginning elementary students are eager to attend school and enter the new learning situtation with enthusiasm and energy. It does not take long for the system to kill this developing vitality and create strong resistance to school. (Authority and Society). The pressures society and the group exert upon an individual in creating personality disorders and maladjustment must be thoroughly investigated in addition to the conflicts created by the family. in early childhood experiences.

PROJECT OBJECTIVES

1. Overall objective

To teach heterogeneously grouped first grade children decoding (reading) by the Look-Say-Hear-Trace-Write method first used by Fernald (1943). This is a modification of Fernald's technique adopted to a general class room rather than as a remedial reading technique. This method has sometimes been called the VAKT or Visual-Auditory-Kinaesthetic-Tactile Method. (Proprioceptor cues)

2. Background

In a study by Williams (1969), sixty-four children, aged 4.6 to 5.6 were taught to discriminate and reproduce forms by trace, say, and reproduce method. Findings suggested that more time be devoted to such motor discrimination training to reduce errors of reversals. (The use of proprioceptor cues were important for learning)

In a doctoral dissertation by Berres (1967) at UCLA, the hypothesis investigated was that increased amount of directed motoric activity would facilitate learning . . . for culturally disadvantaged, retarded readers. The three methods used (independent variables in this instance) were Look-Say, Look-Say-Trace-, and Look-Say-Trace-Write. After extensive training of 18 subjects the results indicated that motor activity over and above that used in traditional teaching methods resulted in greater retention in relation to learning for culturally disadvantaged readers.

In Erickson's (1969) study of visual Haptic aptitude in relation to children's achievement in reading, previous research by Lowenfeld maintained that only half of the population can profit by visual stimuli. Lowenfeld found that haptic type learner (non-visual) was satisfied to internalize singly any partial impression he received and that he had little desire to view his impressions as wholes-- this as contrasted to the integrating and forming of comprehensible wholes characteristic of the visual learner. Lowenfeld further suggested that reading achievement for the non-visual learners was less than that achieved by visually oriented learners. From these findings of Lowenfeld, Erickson then hypothesized that this failure was due to the lack of perceptual skills on the part of the learner.

In a comprehensive study of the remediation of learning disorders in culturally disadvantaged youth, carried on by the Department of Psychology at the University of California at Los Angeles in conjunction with the Fernald School (1969), the major experimental finding clearly indicated the superiority of the approach used with the experimental group (Look-Say-Hear-Trace-Write) at the Fernald School over the two other groups, those children in a public school enrichment program and those in a non-treated group. (Seymour Feshbach, Project M7-200, UCLA, Funded by Calif.)

Insofar as sexual differences in perception, with concomitant detrimental effects in reading achievement, Witkin (1949) noted

that marked sex differences in perception and mode of learning existed. Boys, as a group, tended to be more muscular (kinaesthetic) and responded more to bodily feelings than did girls. In a study of American and German readers, Preston (1966) noted that the mean reading achievement of American girls exceeded that of American boys at the two grade levels studied, four and six. The reverse was true of the German sample. The implications from these findings were related by the investigator to the predominance of males in the teaching profession in Germany and emphasis upon reading as a masculine activity. The implication is also there that males would be more masculine (motor) in their approach to learning.

A major theory of perception in the field of psychology, the Werner-Wapner Sensory-Tonic Field Theory of Perception, based upon experimental evidence, (1950) points out that perception is neither sensory nor motor but an integrative process in the human brain prior to both. We may need to look at decoding (reading) in the same light.

Werner-Wapner point out perception may be affected in a similar way by stimulation through the senses as well as by direct stimulation of the muscles. As perceptual skills are a part of reading, reading may also be affected in the same manner. Perceptual skills in reading may be developed either by sensory stimulation (visual and other) as well as by direct stimulation of the muscles or proprioceptor stimulation. This seems to be particularly significant in view of Witkin's work (1949) in which he found marked sex differences between boys and girls. Also sickness even under laboratory conditions was produced when an individual's mode of perception was frustrated. Our schools with an emphasis on teaching reading by See-Memorize-Decode, may be forcing a feminine approach upon many of our boys.

Reading is the result of an integrative process in the human brain. In this process there are marked sex differences. Reading may need to be concerned with the "process" or integration in the human brain.

The Fernald method utilizes direct stimulation of the muscles as well as stimulation of the senses. Look-Say-Hear-Touch-Movement cues are given simultaneously according to the laws of conditioning. No matter what sex or individual differences exist, all the senses can be inter-related to each other. The Fernald method is not just sensory nor motor, but an interative process.

An explanation of the success of the Fernald Method may be found in a publication by Caukins (1970). In addition to sex differences found in proprioceptor stimulation by Witkin (1949) the proprioceptors also seem to have ingegrative as well as formulative functions in the perceptual and intellectual processes.

The proprioceptors in the smooth muscles, joints, and tendons, may be much more important than suspected previously because their function goes on largely unnoticed in a route directly to the lower brain centers. As a result cortical functions can be

circumvented, developed, or similarly affected along with the other senses.

There is a definite organ of the body involved, the vestibular system. The proprioceptors of the body and the labyrinthine receptors functionally form one receptive system. This system is part of the cerebellum which is the head ganglion of the proprioceptor system. The cerebellum, in turn, exerts a continual reinforcing action on the activity of all other nerve centers. In addition, integrative functions for the cortex in the cerebellum may be evidenced by the fact that the afferent fibers which leave the cerebellum make up one-third as many fibers as the number which enter it. (Caukins- 1970- a copy included in the Appendix)

Feelings, responses, images, and patterns can all be conditioned to motor patterns. Movement is a vital function to the human being. Without movement there is very little life.

3. General objectives

A. Common perceptual confusions can be eliminated by the early use of a Look-Say-Hear-Trace-Write technique, early used by Fernald (1943) in beginning reading, spelling, and other academic skills. Today's method of teaching reading seperately from writing increases learning difficulties in reading, as writing is a valuable and effective means of developing visuomotor perception and provides the child with certain proprioceptor stimulation which is necessary in visual perception of words.

B. Training in discrimination of letters and words in decoding should be given as decoding is a recognition skill. The Fernald method of Look-Say-Hear-Trace-Write is one such approach or form of training.

C. Active participation, as in writing, should lead to superior performance in recognition of letters and words.

D. A multi-sensory input should increase recall-memory of decoding.

E. The boys, with emphasis upon motoric involvement, should learn to read as well as the girls in the study by the end of the experiment.

F. Culturally disadvantaged children should learn to decode as well as their non-disadvantaged peers.

G. The development of visuomotor perceptual skills will result in less frustration in the learning process, favorable conditioning to the group and less negative attitudes on the part of students.

H. The effective use of proprioceptor stimulation will result in less group hostility and violence, and less conflict over sexual roles.

4. Specific goals

A. Teach children in the experimental sample to See-Say-Hear-Trace-Write the words they wish to use in their own creative stories.

B. Teach Children in the experimental sample to read and to spell using the modified Fernald VAKT Technique.

C. Teach Teachers how to teach using the Fernald VAKT Technique modified to a general teaching method.

D. Teach culturally disadvantaged children to read through the usage of the Fernald VAKT Technique.

E. For those children showing marked visual and motor perceptual problems and who are having difficulty with the modified VAKT method, special exercises (games) will be utilized to develop the necessary motor abilities. These are outlined in the Remediation of Learning Disabilities by Robert E. Valett, Fearon Publishers, Palo Alto, California, 1967. Also the Slow Learner in the Classroom, by Newell C. Kephart, Charles E. Merrill Publishing Company, Columbus, Ohio, 1960. Dr. Kephart will be a consultant and instructor at the Teachers Training Institute.

ACHIEVING THE OBJECTIVES

There will be ten (10) first grade experimental classes and ten (10) first grade control classes. Pairs of children will be matched by sex, age (±3 months), I.Q. (±S.E. of measurement), father's D.O.T. classification, and social status as determined by neighborhood area in which the family resides. Classes will be located as follows:

Five matched groups, El Rancho Unified District
Two matched groups, Little Lake Elementary District
Three matched groups, Anaheim City Schools

In addition, a comparison group of non-matched children from the Montebello Unified Schools and the Los Nietos Elementary Schools will be studied to determine if children on a non-matched basis do better than either the experimental and control samples. Children who can already read, who are monolingual or nearly so in Spanish, or whose I.Q. is below 90 will not participate in this study.

Teachers in both the experimental and control classes will spend five days in a summer training program. They will learn how to organize learning centers, to develop experience in the story telling approach to reading, to gain practice in classroom management techniques related to positive reinforcement, and how to use the various materials utilized in the study. The experimental teachers will have an additional five days to learn the VAKT technique and the development of visuomotor perceptual skills as outlined by Dr. Newell C. Kephart.

Both sets of classrooms will be organized into multiple learning centers. Children will be permitted to choose which center they wish to work in, and five children will work individually with the teacher on a rotating basis.

The learning strategy will be to have the child initiate the activity with the teacher by telling his own creative story on paper. The teacher will copy those words the child cannot read or spell on a 4 inch by 11 inch paper with crayola. These words will be filed in the child's personal word box, alphabetically, located on each desk.

In the experimental class, the child will learn to write each word in his story by the Fernald or VAKT method. This method is described in detail in the book, Remedial Techniques in Basic School Subjects, by Grace M. Fernald, McGraw-Hill Book Company, 1943. The children will then say and trace the words until they can reproduce the word three times each from memory. The children may first start at the blackboard where they can use larger and more gross motor involvement. After the child has mastered the technique, he will switch to the words written on the 4 inch by 11 inch paper with crayola. After the child has written the word three times from memory, saying it out loud by syllables, he places it in his story. After the story has been completed in long hand, the child is presented with a typewritten copy of it to read.

In the control classes, the teacher will use the usual visual method of instruction as described in the Teachers' Manual of the State Text. The only difference in procedure between the two groups will be that in the experimental group will use proprioceptor stimulation in learning visuomotor perceptual skills and in learning basic academic skills in addition to visual stimulation. The children will Look-Say-Hear-Trace-Write approaches to the learning situation.

In both sets of classes, children's stories will be stapled in books for the other children to read. In both classes one child's story will be displayed on the overhead projector for the entire class to read. The teachers will select words from the stories for a basic reading/spelling list for this group. The children in the experimental class will learn these words by the VAKT method, while the control class will practice words using the visual approach. Both groups of classes will file the new words they learn in the reading/spelling in their special boxes. These words will be used for independent story writing as soon as each child has enough words to write his own story.

The second and third year children will use books to supplement individual pupil-created booklets. Any first grade child who is able to read trade books after his writing/telling experience may select the book center or the listening center. Trade books and textbooks will not be stressed during the first year but will be stressed during the second and third year.

The method of instruction for achieving these results is a proven remedial reading technique. It is recommended as such not only by Fernald but by a list that includes Kolson and Kaluger, Heilman, and others. It has successfully been used by Feshbach and Berres in the remediation of learning disorders in culturally disadvantaged youth. The method is being modified as a general class room technique for heterogeneously grouped children. Those children that have difficulty with the technique because of difficulty in or lack of development of visuomotor skills will be given special games to develop these skills.

The technique allows and encourages individual expression. Each child can learn according to the means best suited to him. As a result it is expected that learning will be vastly enhanced. Proprioceptor stimulation is utilized in an effective manner according to the laws of conditioning.

STATEMENT OF WORK

Calendar of Events

May 1, 1971. Funded. The Director will call together representatives from the public schools involved and the University of California at Irvine (UCI) for the purpose of discussing the research model, the tasts to be carried out, teacher nominations for training, and other methodologies pertaining to the study.

May 15, 1971. Research Assistants Hired. Teacher interviews and group meeting for the purpose of discussing the research, the materials, individual needs, and the summer workshop. Purchase materials and equipment for the project.

June 1, 1971. Plan with UCI for the summer workshop to be held in August. Course content and instruction.

August 1, 1971. Summer workshop (10 days) begins. Summer orientation session (3 days) for principals and school district supervisory personnel to explain goals of program and familiarize them with classroom organizational structure and methods.

September, 1971.
a. Begin experiment
b. Parent meetings to explain purposes of the program
c. Test children in both experimental and control groups.

December, 1971. Three-day workshop for teachers to renew skills in modified VAKT techniques, if necessary, and have feedback on teacher perceptions of the program.

May, 1971.
a. Test children in both experimental and control groups.
b. Analyze data
c. Prepare final reports

June, 1971. Hold two day teacher work shop to go over project and discuss improvements for the continuation of experiment during second and third grades.

Facilities

1. Ten experimental classrooms in the respective districts: Anaheim City Schools, El Rancho Unified Schools, Little Lake Elementary District.

2. Random selection of children in a second control group that does not participate in teacher training or whose teachers are aware of this project.

3. University of California at Irvine (UCI) Currently working with HEW-OE in educational research. They have trained research personnel and have two computers which may be used for the analysis of the proposed study data.

4. Project office will be located in the suite of offices of the Psychological Counseling Center, 3759 Atlantic Avenue, Long Beach, California 90807

The personnel of the project and their positions and backgrounds are described in the following pages. The research assistants have not yet been selected. Their function will be to serve as substitute teachers if necessary, to assist class room teachers in any special problems, and to help the Psychologist-Investigators to test children with special problems, the administration of tests, and other projects. They also will assist in the research, writing, and adminstrative details.

Classrooms will be visited at least once a week. Although the technique of See-Say-Hear-Trace-Write is relatively simple, if it is not done correctly it is of no use at all. Care must be exerted to have comparability of teaching background prior to the summer training sessions. Modifications throughout the experimental period must be equalized so as to maintain consistency in the use of the VAKT method for the experimental group.

Teaching Assistants (two) have been scheduled for each class in both the control and experimental groups. This is deemed exceptionally important due to the fact there is a large amount of clerical and individual work required for each child. Stories have to be individually dictated, words written for each child, and the stories typed immediately after being written in long hand. In addition, more time will have to be spent in working with each child in mastering the tracing technique. Once the child has integrated the process and learned to read, it does not make any difference in end results whether a child has an emphasis on visual or proprioceptor stimulation. Auditory, visual, or kinaesthetic cues are equally effective once they have been inter related and perceptual skills have been developed.

Staffing Requirements:

A description of the proposed project personnel, duties, brackground, and qualifications is contained on pages 18, 19, 20, 21, 22, 23, and 24. The following positions have been provided:

Project Director	50% time
Psychologist	One full time postion (two half time)
Statistician-Eval.	50% time
Teacher Training Consultant.....	As needed
Research Assistants	Two full time positions (grad. students)
Motor Movement Specialist.....	As needed

BIOGRAPHICAL SKETCH

NAME	TITLE	BIRTHDATE (Mo., Day, Yr.)
Sivan E. Caukins, Jr.	Psychologist, licensed by Board of Medical Examiners	July 16, 1922
PLACE OF BIRTH (City, State, Country)	**PRESENT NATIONALITY** (If non-U.S. citizen, indicate kind of visa and expiration date)	**SEX**
Los Angeles, California	U. S. A.	X Male ☐ Female

EDUCATION (Begin with baccalaureate training and include postdoctoral)

INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	SCIENTIFIC FIELD
University of California at L. A.	B. A.	1947	Psychology
George Pepperdine College, L. A.	M. A.	1956	Psychology
Claremont Graduate School (39 units)	Post M. A.	1957	Psychology
San Gabriel University, Santa Ana (Being merged with Univ. of Cal. I.)	Ph. D.	1971	Psychology

HONORS

(1) Established as an expert in mental illness in the Superior Court of California, in the Counties of Orange, Los Angeles, and Santa Barbara
(2) On the approved referral list of the Conciliation Court, Superior Court of California, County of Los Angeles

MAJOR RESEARCH INTEREST	ROLE IN PROPOSED PROJECT
Sex Differences in Education and importance of proprioceptors	Principal Investigator and originator of project.

RESEARCH SUPPORT (See instructions)

1969 Research Grant from Research Dynamics a Division of the Evangelistic Church of Christian Dynamics, Inc., to explore the significance of physical movement in the learning process. Two papers produced. (1) Why Johnny Can't Learn to Read or Sex Differences in Education, (Long Beach, Executive Business Service: 1970), Library of Congress Card A 166266); and (2) The Proprioceptors- the Most Important and Sixth Sense of Man, (Long Beach, Psychological Counseling Center, 1970) Library of Congress Card A 211280

RESEARCH AND/OR PROFESSIONAL EXPERIENCE (Starting with present position, list training and experience relevant to area of project. List all or most representative publications. Do not exceed 3 pages for each individual.)

Director of the Psychological Counseling Center since 1967.

Marriage, family, and child counselor, licensed by the Social Worker and Marriage Counselor Qualifications Board, State of California, #M611

Psychologist licensed by the Board of Medical Examiners, State of Calif., License No. LP 35. In private practice 13 years.

Psychologist, Advisement Service, Los Angeles City Board of Education, 1957-158

Psychological Intern, Patton State Hospital, Patton, Calif., 1956-57

Instructor, Remedial Techniques in Basic School Subjects, George Pepperdine College, Los Angeles, California 1956

Instructor, Psychology, Adult Education, Los Angeles City Board of Education, 1957

Head Instructor, Brentwood House, operated as a private clinic for learning cases by Dr. Grace M. Fernald, Head, Psychology Clinic, University of California at Los Angeles, 1946-1947

Papers and Publications

Fundamentals of Brainwashing Utilized to Prevent Learning Failures in the Class Room or the Proprioceptors- the Most Important and Sixth Sense of Man, Long Beach, Psychological Counseling Center 1970; Library of Congress Card- A 211280

Why Johnny Can'T Learn to Read or Sex Differences in Education, Long Beach: Executive Business Serve, 1970; Library of Congress Card A 166266.

"The Real Secret Boss of California", Frontier, Vol. 3, No. 2, December 1951, pp 5-9.

Organizations

President, The Evangelistic Church of Christian Dynamics, Inc., 1969 to date, a private foundation, Internal Revenue Service letter of Determination, dated July 8, 1969, Serial # LA:EO: 69-695, L-178, Code 414:EO:CHK/(213) 688-4886.

Past President, Orange County Psychological Association, 1953-1956

Past State Trustee, California State Marriage Counseling Association, 1955-1956

Charter Member Orange County Psychological Association, 1960

Member, American Psychological Association since 1958.

SECTION II – PRIVILEGED COMMUNICATION

BIOGRAPHICAL SKETCH

(Give the following information for all professional personnel listed on page 3, beginning with the Principal Investigator. Use continuation pages and follow the same general format for each person.)

NAME	TITLE	BIRTHDATE *(Mo., Day, Yr.)*
Patricia C. SIMMONS	Research Consultant, L. A. County Schools	March 12, 1916
PLACE OF BIRTH *(City, State, Country)*	**PRESENT NATIONALITY** *(If non-U.S. citizen, indicate kind of visa and expiration date)*	**SEX**
Los Angeles, California	U. S. A.	☐ Male ☒ Female

EDUCATION *(Begin with baccalaureate training and include postdoctoral)*

INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	SCIENTIFIC FIELD
University of California at L. A.	Ed.B	1937	Education
University of Southern California	M. A.	1944	Education
University of Southern California	Ed.D.	1954	Education
University of Southern California	30 units	1953-55	Clinical Psychology

HONORS

MAJOR RESEARCH INTEREST	ROLE IN PROPOSED PROJECT
Educational Research	Evaluator, Writer, and Statistician

RESEARCH SUPPORT *(See instructions)*

RESEARCH AND/OR PROFESSIONAL EXPERIENCE *(Starting with present position, list training and experience relevant to area of project. List all or most representative publications. Do not exceed 3 pages for each individual.)*

1967 to Date: Consultant in Research, Federal Projects, L. A. County of Superintendent of Schools, ESEA Title 111, Supplementary Education Center for Planning & Development
1955 to 1967 Director of Research, Orange County Schools
1950 to 1955 Associate Professor of Education, George Pepperdine College and Whittier College
1948 to 1950 Director of Curriculum, Downey Schools
1946 to 1948 Principal, Bellfower, California
Summer Teaching at: University of California
University of California at Irvine
Fresno State College
Bakersfield State College
University of California at Riverside
Director of Summer Inservice wordshop, Pasadena Unified Schools
Special Consultant, Oxnard Union High Schools, State Department of Education, Elementary Bureau.

SECTION II – PRIVILEGED COMMUNICATION

BIOGRAPHICAL SKETCH

(Give the following information for all professional personnel listed on page 3, beginning with the Principal Investigator. Use continuation pages and follow the same general format for each person.)

NAME	TITLE	BIRTHDATE *(Mo., Day, Yr.)*
Evelyn L. Blackman	Professor, Long Beach State College, Educational Psy.	May 11, 1910
PLACE OF BIRTH *(City, State, Country)*	**PRESENT NATIONALITY** *(If non-U.S. citizen, indicate kind of visa and expiration date)*	**SEX**
Iowa, USA	USA	☐ Male ☒ Female

EDUCATION *(Begin with baccalaureate training and include postdoctoral)*

INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	SCIENTIFIC FIELD
University of Washington	A.B.	1948	Creative Writing
University of California at Berkeley	M.P.H.	1949	Health Education
University of California at Berkeley	Ed.D.	1955	Education (Counseling Psy)

HONORS

American Public Health Association (Fellow)
Phi Kappa Phi (Honorary Scholastic Society)

MAJOR RESEARCH INTEREST	ROLE IN PROPOSED PROJECT
Educational Research- Counseling & School Psychology	Investigator Psychologist

RESEARCH SUPPORT *(See instructions)*

1967-68 Research Sabbatical
Awarded grant-in-aid under the Faculty Creative Activity and Research Grants Program, CSCLB Foundation, for research on "The Relationship Between Anxiety and Achievement of Various Grade Levels." Four studies were completed and one is in progress. These were reported at the California Educational Research Assoc. meeting at Berkeley, March 15, 1968

RESEARCH AND/OR PROFESSIONAL EXPERIENCE *(Starting with present position, list training and experience relevant to area of project. List all or most representative publications. Do not exceed 3 pages for each individual.)*

1961 to date Professor, Department of Educational Psychology and Social Foundations, California State College Long Beach
1957 to 1959 Assistant Professor, San Jose State College, Division of Natural Sciences.
1955 to 1957 Executive Director, East Bay Assoc. for Retarded Children
INVOLVEMENT IN FEDERAL PROGRAMS IN PUBLIC SCHOOLS. Title 1, ESEA
1970 Writer, Evaluator, Inservice Training, Oxnard Union High School Dist.
Evaluator of total ESEA program for 5 target area schools in Anaheim Elementary School District
Research Evaluator for project, Psychological Consultant, Lincoln Demonstration Elementary School, Paramount, California
1966 Summer Session, Faculty member, NDEA Institute in Counseling and Guidance, Elementary
1964 Summer Session, Faculty member, NDEA Institute in Counseling and Guidance, Secondary

Publications:

Symposium: The Retarded Child - "Educational Considerations", American Journal of Occupational Therapy, June 1956 - paper given at their national meeting of that year.
Unpublished doctoral dissertation: "Opinions Regarding Health as Factors in Social Acceptability Among Seventh Grade Students."

SECTION II – PRIVILEGED COMMUNICATION

BIOGRAPHICAL SKETCH

(Give the following information for all professional personnel listed on page 3, beginning with the Principal Investigator. Use continuation pages and follow the same general format for each person.)

NAME	TITLE	BIRTHDATE *(Mo., Day, Yr.)*
Stanley H. Walters	Director, Special Services San Joaquin School Dist.	October 29, 1924
PLACE OF BIRTH *(City, State, Country)*	**PRESENT NATIONALITY** *(If non-U.S. citizen, indicate kind of visa and expiration date)*	**SEX**
Los Angeles, California	U. S. A.	☒ Male ☐ Female

EDUCATION *(Begin with baccalaureate training and include postdoctoral)*

INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	SCIENTIFIC FIELD
University of New Mexico	B. S.	1950	Biology
Long Beach State College	M. A.	1956	Educational Psycholo
San Gabriel University	Ph. D.	1964	Psychology

HONORS

Appointed to the Governor's Commission on Crime, Committee of Juvenile Delinquency, 1968 - 1970

MAJOR RESEARCH INTEREST	ROLE IN PROPOSED PROJECT
Educatinnal Psychology	Consultant, Psychology

RESEARCH SUPPORT *(See instructions)*

Psychological Consultant on Research Project #0-0777, submitted to the U. S. Office of Education, May 13, 1970. Project still in process at OE.

RESEARCH AND/OR PROFESSIONAL EXPERIENCE *(Starting with present position, list training and experience relevant to area of project. List all or most representative publications. Do not exceed 3 pages for each individual.)*

Graduate College Teaching, Psychology, University of California, Irvine & Chapman College, 1960 - 1970

Chairman of the Board of Trustees, San Gabriel University, 1967 - 1970

Director of Special Services, San Joaquin School District, 1968 - 1969

School Psychologist, Tustin High School District, 1966 - 1968

Private Practice as a Psychologist and Marriage, Family, and Child Counselor, 1960 - 1970

Book in Process of Publication
"New Approach to School Guidance"

SECTION II – PRIVILEGED COMMUNICATION

BIOGRAPHICAL SKETCH

(Give the following information for all professional personnel listed on page 3, beginning with the Principal Investigator. Use continuation pages and follow the same general format for each person.)

NAME	TITLE	BIRTHDATE *(Mo., Day, Yr.)*
Kenneth P. Bailey	Director of Teacher Training, Univ. of Cal., Irvine	February 17, 1912
PLACE OF BIRTH *(City, State, Country)*	**PRESENT NATIONALITY** *(If non-U.S. citizen, indicate kind of visa and expiration date)*	**SEX**
Benton Harbor, Michigan	U. S. A.	☒ Male ☐ Female

EDUCATION *(Begin with baccalaureate training and include postdoctoral)*

INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	SCIENTIFIC FIELD
University of California at L. A.	A. B.	1934	History Major
University of California at L. A.	M. A.	1936	History Major
University of California at L. A.	Ph. D.	1938	U. S. History

HONORS

Received the American Historical Association Award for outstanding history book published in 1939 by Pacific Coast author.
First Ph. D. ever awarded by U. C. L. A.

MAJOR RESEARCH INTEREST	ROLE IN PROPOSED PROJECT
Education	Consultant, Teacher Training

RESEARCH SUPPORT *(See instructions)*

Teacher Education Consultant on Research Project #0-0777, submitted U. S. Office of Education May 13, 1970. Project still in process OE .

RESEARCH AND/OR PROFESSIONAL EXPERIENCE *(Starting with present position, list training and experience relevant to area of project. List all or most representative publications. Do not exceed 3 pages for each individual.)*

Director of Teacher Training, University of California, Irvine Campus
Irvine, California

Principal, Pacific High School, San Bernardino, California, 1953-1967

Coordinator of Community Services, Long Beach City College, Long Beach California, 1950-1953

Superintendent of Oceanside-Carlsbad High School and Junior College, Director of Oceanside-Carlsbad College, Oceanside, California 1948-1950

Dean of Students, Professor of History, Chairman, Social Sciences Department, Humboldt State College, Arcata, California 1945-1948

Books Published:

The Ohio Company of Virginia and the Westward Movement, 1748-1792; A Chapter in the History of the Colonial Frontier, The Arthur H. Clark Company, 1939

Thomas Cresap, Maryland Frontiersman, The Christopher Publ. House, 1944

Publications Continued:

The Ohio Company Papers, 1753-1817, Being Primarily Papers of the "Suffering Traders" of Pennsylvania, California Society of the Sons of the Revolution, 1947

Survey of American History, Edwards Bros., 1951

American Political Institutions, Edwards Bros. (6th Edition) 1965

American and California Government Background Institutions, Functions, and Popular Control, Edwards Bros., 1965

Articles Published:

"The Ohio Company and Western Pennsylvania," Western Pennsylvania Magazine of History, September, 1939

Christopher Gist and the Trans-Allegheny Frontier," Pacific Historical Review, March, 1945

"George Mason, Westerner," William and Mary Quarterly Historical Magazine, October, 1943

Organizations

History Panel Member; Office of Education, Washington, D. C., 1965-1966
Member, California State Curriculum Commission, 1955 to date

Analysis of data

A. By September 30, 1971, all children in both the experimental and control groups will have been tested on the Kuhlman-Anderson I. Q. Test and Metropolitan Readiness Test. These same students will be administered two non-verbal personality tests- the Bender-Gestalt Test and the House-Tree-Person Test. These tests can be administered to the group and only require the ability to draw in the case of the H-T-P Test and to copy simple designs in case of the Bender-Gestalt. They are non-controversial in content.

B. In June, 1972, all students will be given the California Achievement Test, Primary Battery, to measure their growth in reading. They will also be given again the two non-verbal personality tests- the H-T-P and the Bender-Gestalt Test.

C. Attendance records will be examined to dtermine the effect of absence and mobility upon achievement in basic academic skills.

D. Health records will be maintained; manely, records pertaining to vision and hearing.

E. An Analysis of variance will be used to determine if I. Q., sex, method of reading, or emotional adjustment has influenced the ability of the children to real, spell, and create stories. Results will also be analyzed to determine if the emotional adjustment, sex identification, and group attitudes differ significantly in either the control or experimental groups.

F. Records will be maintained in the school room on the progress of each child, difficulties with method, observable perceptual difficulties, and dependence if any on any particular sense cues.

Two psychologist-investigators (two half time positions) will do a blind analysis of the personality tests. They will be assisted by two research assistants, graduate students in psychology with teaching credentials, who will work as directed. All students who score below 90 I. Q. on the group test will be administered individual I. Q. tests by the psychologists. Any students referred by the teachers will be tested individually.

The Evaluator-statistician-writer will organize, collect, and prepare the data to run on the computer.

Each class in both the control and experimental groups will be visited once each week by project personnel for observation and evaluation.

BIBLIOGRAPHY

In sequential order as mentioned in project

Postman, Neil, and Charles Weingartner. Teaching as a Subversive Activity. New York: Delacorte Press, 1969.

Bentzen, Frances. "Sex Ratios in Learning and Behavior Disorders," American Journal of Orthopsychiatry, 33 (1), 1963

Smirnov, A. A. "The Development of Soviet Psychology," Soviet Psychology, New York: Philosophical Library, Inc., 1961

Shnirman, A. L.,"Investigation of Pupil Personality," Soviet Psychology, New York: Philosophical Librayr, Inc., 1961

Kephart, Newell C., The Slow Learner in the Classroom, Columbus: Charles E. Merrill Co., ;960

Frostig, Mariane, and David Horne. The Frostig Program for the Development of Visual Perception. Chicago: Follett Publishing Co., 1964

Valett, Robert E. The Remediation of Learning Disabilities. Palo Alto: Fearon Publishers, 1967.

Kagerer, Rudolph L. The Relationship of Visual Perception Performance in Early Grades to Reading Level in Grade Four, Florida: Winterhaven Lions Publications Committee, 1960

Fernald, Grace M. Remedial Techniques in Basic School Subjects, New York: McGraw-Hill Book Co., 1947

Schwarz, Fred. You Can Trust the Communists to be Communists, New Jersey: Prentice-Hall, 1960

Lifton, R. J. Thought Reform and the Psychology of Totalism; A Study of Brainwashing in China. New York: W. W. Norton, 1961

West, L. J. "Psychiatry, Brainwashing, and the American Character," American Journal of Psychiatry, 120: 842-850

Williams, Joanna P. "Training Kindergarten Children to Discriminate Letterlike Forms." American Educational Research Journal, 6: 501-513, November, 1969

Berres, Frances B. "The Effects of Varying Amounts of Motoric Involvement on the Learning of Nonsense Dissyllables by Male Culturally Disadvantaged Retarded Readers." (Abstract, doctoral dissertation, 1967). Submitted in connection with Project M7-200, University of California, Los Angeles, funded by the State of California,Office of Compensatory Education, Sacramento.

Erickson, Richard C. "Visual-Haptic Aptitude: Effect on Student Achievement in Reading." Journal of Learning Disabilities; 2:21-25 (may 1969)

Lowenfeld, V. "Tests for Visual and Haptical Aptitude." American Journal of Psychology, 58:100-112 (1945)

Feshbach, Seyour. "A Training, Demonstration, and Research Program for the Remediation of Learning Disorders in Culturally Disadvantaged Youth, Final Report (2 parts)." The Fernald School, Department of Psychology, University of California, Department of Education, Division of Compensatory Education, August 31, 1969.

Witkin, H. A. "Importance of Individual Differences in Perception." Perception and Personality--A Symposium, Edited by J. S. Bruner and David Krech. Durham: Duke University Press (1949)

Werner, Heinz and Seymour Wapner. "Senory-Tonic Field Theory of Perception," Perception and Personality, Edited by Jerome S. Bruner and David Krech, Durham: Duke University Press (1950)

Caukins, Sivan E. "Why Johnny Can't Learn to Read or Sex Differences in Education, (Long Beach, Executive Business Service,1970)

_____. Fundamentals of "Brainwashing" Utilized to Prevent Learning Failures in the Classroom or The Proprioceptors- The Most Important and Sixth Sense of Man, (Long Beach, Psychological Counseling Center, 1970) Library of Congress Card A 211280.

Lowenfeld, V. Creative and Mental Growth. New York: Macmillan, 1957

Preston, G. Reading Teacher (1966) 20 (2), pp. 157-159

Kolson, Clifford J., and George Kaluger, Clinical Aspects of Remedial Reading, Springfield: Charles C. Thomas- Publisher, 1963 - p21

Heilman, Arthur W., Teaching Reading, Columbus: Charles E. Merrill Publishing Co., 1967 p 208

NAHEIM CITY SCHOOL DISTRICT

412 EAST BROADWAY, ANAHEIM, CALIFORNIA 92805
PHONE (714) 535-5001

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December 18, 1970

Dr. S. E. Caukins
Director
Psychological Counseling Center
3759 Atlantic Avenue
Long Beach, California 90807

Dear Dr. Caukins:

Your Research Proposal on " A Study of Proprioceptive Stimulation" as you described to me sounds very promising. We would be most interested in participating with you in this project.

We have developed many reading activities for our regular classes as well as Special Education and welcome ideas for sound educational methods.

Sincerely,

William A. Thompson

William A. Thompson
Director of Special Services

WAT:mj

STATEMENT OF INTENT

To: Mr. Steve E. Caukins,
Director of Psychological Conflict Center
3759 Atlantic Boulevard
Long Beach, California 90807

(Complete and return this form "postmark dated" no later than January 1, 1971.)

From: Little Lake City School District
Name and Address of School District or County Office

10515 South Pioneer Boulevard, Santa Fe Springs, Calif. 90670

Title: The Investigation of Proprioceptor Stimulation

It is the intent of the Little Lake City School District to cooperate with the research project, "The Investigation of Proprioceptor Stimulation," in one of our elementary schools.

Frank Mason
Frank Mason, Superintendent

December 18, 1970.

EL RANCHO UNIFIED SCHOOL DISTRICT

9333 Loch Lomond Drive, Pico Rivera, California 90660

Telephone **692-0551**

John P. Jones
Superintendent

John E. Jackson
Assistant Superintendent
Educational Services

Thomas Sakalis
Assistant Superintendent
Personnel Services

December 18, 1970

Re: Letter of Intent

Gentlemen:

The El Rancho Unified School District would be pleased to participate in the project "Investigation of Proprioceptor Stimulation" as being submitted involving three experimental classes and three control classes in the El Rancho Unified School District.

The district has designated one elementary school as a demonstration school in order to facilitate our search for methods and techniques to meet the educational needs of our large Mexican-American population. The proposed project would offer us the potential for gaining additional knowledge relative to how children learn which would thereby enable us to proceed with the implementation of those programs and ideas proven successful.

Sincerely yours,

Howard F. Starnes
Director of Curriculum

HFS:ko

cc: Sivan Caukins
Long Beach, California

Board of Education

Henry Alonzo Gil De La Rosa Vivian J. Kimbrough John L. Monson Angel A. Morales Raul P. Salcido F. E. White

UNIVERSITY OF CALIFORNIA, IRVINE

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO — SANTA BARBARA • SANTA CRUZ

OFFICE OF TEACHER EDUCATION
IRVINE, CALIFORNIA 92664

September 28, 1970

Dear Sir:

This letter is to verify that the Office of Teacher Education at the University of California, Irvine campus, will be the participating campus in the "Investigation of Man's Sixth Sense - Proprioceptors". We also will serve as liaison with the surrounding school districts.

The department will also be involved in the research and in the evaluation processes.

Sincerely yours,

KENNETH P. BAILEY
Director

KPB:ns
cc: Principal Investigator: S. E. Caukins
Psychological Counseling Center

ABSTRACT

WHY JOHNNY CAN'T LEARN TO READ, OR SEX DIFFERENCES IN EDUCATION, S. E. Caukins, Long Beach: Executive Business Service, 1970. Library of Congress Catalog Card Number: A 166260.

Words are the tools man uses in his thinking process. Languge in its broadest sense, represents symbols of mental thought. The spoken word represents a symbol of an actual object, feeling, condition, or action. This auditory symbol is a result of a muscular process- the action of the throat, tongue, lips, mouth, and other body muscles. Writing and reading carry this operation one step farther and represent visual symbols of an auditory symbol of a muscular process resulting from a mental thought. Much of our behavior is based on our thinking process using words in which proprioceptor stimulation has had a basic and fundamental part in the initial development and expression.

Reading is an expression of symbolic thought. It is a form of communication requiring the successful manipulation of symbols of symbols of mental thought. It involves a neural integrative process in the brain resulting in part from past experiences, perception, memory, learning, and capacity which includes physical, emotional, and intellectual development.

Spelling compared to reading is an encoding process while reading is a decoding process. Reading involves recognition skills while spelling involves recall skills. Spelling is a form of symbolic thought. It requires a motor ability to successfully reproduce visual symbols.

In the symbolic thought process, there are marked sex differences. Girls as a group go along with the visual field while boys as a group are more muscular or kinaesthetic. Boys have a stronger use of proprioceptor stimulation. The extent of the development and potential of this neural integrative process in the human brain, symbolic thought, constitutes a basic growth drive in the human. Symbolic thought plays a vital part in self preservation of the

individual and the species, communication, obtaining basic needs- both physical and emotional, and seems to be a growth drive intrinsic to man. The blocking, destruction, impairment, or mal-functioning of this integrative process, can constitute a threat to the adjustment, emotional health, or survival of man.

The proprioceptors have a vital function in many areas other than in their use of the production of auditory symbols and the writing of visual symbols in the symbolic thought process. They are basic to all human movement. The proprioceptors located in the smooth muscles, joints, and tendons feed information into a definite organ of the body. The vestibular system and the proprioceptors functionally form one receptive system. The central organ where this takes place is the cerebellum. The cerebellum by unconscious process exerts a continual reinforcing action on the activity of all other nerve centers. There seems to be integrative functions in the cerebellum for the cortex as afferent fibers which leave the cerebellum make up one-third as many fibers as the number that enter it.

The proprioceptors may be much more important than suspected previously becasue their function goes on largely unnoticed in a route directly to the lower brain centers. In fact the proprioceptors may be the most important and sixth sense of man. We already know feelings, responses, images, and patterns can be conditioned to motor patterns or proprioceptor stimulation. It now also appears the effective use of the proprioceptors can (1) destroy previous learning as in communistic techniques of "brain-washing", (2) rebuild capacity in the integrative process where brain tissue has beendestroyed as in cases of aphasia, (3) develop perceptual abilities as in the case of non-readers, (4) incorporate individuals, groups, machines, and locations as extensions of our selves, (5) circumvent higher brain functioning as in hypnosis, (6) have a similar affect with tne other five senses in higher brain functions, (7)distort integrative functions resulting in emotional and behavioral problems.

Particularly serious problems can develop if vision and proprioceptor stimulation are not married together or develop seperately. The imposing of frustrated learning patterns upon previous conditioned behavior can also result in serious emotional problems in the individual.

The failure to take into account pronounced sex differences in the use of proprioceptor stimulation in the educational process may produce serious cultural problems. The bending, forcing, and pounding many of our boys into feminine learning patterns in the beginning grades of our elementary schools may be feminizing the American male, producing negative conditioning to the group and account for much of the violence in society today, and resulting in many culturally produced emotional problems.

The understanding and functioning of the proprioceptors have an importance in all areas of human behavior and development. The failure of many "normals" in learning to read in the class room may be due to the failure to effectively use proprioceptor stimulation as part of the teaching methods in the class room.

Stimulation of the proprioceptors does not constitute learning any more than a visual stimulation such as a bright light constitutes learning. This is a function of what, how, and when other information is married or related to proprioceptor stimulation. The process of integration is an important factor in all learning situations.

(THE NEED FOR PROPRIOCEPTOR STIMULATION)

THE SEX MUSCLE LEARNERS

BY S. E. CAUKINS

The new elementary school student with strong kinaesthetic (sometimes called position or movement sense) abilities faces an almost impossible task in school. The words "cat" and "dog" written on the blackboard are meaningless to him. They appear as nonsensical designs and are in no way related to his involvement with the environment. This does not mean he cannot see these designs or words but they have not been incorporated into his perceptual process or understanding. They lack organization and meaning for him until he can relate them to his own physical movement or body feelings expressed in intellectual functioning. He must first condition his other senses to his primary and basic muscle motor complex pattern. He learns best from things he can touch, feel, and experience physically. He relates to the world through his muscles.

Teachers miss this point because vision seems to dominate in impact over all the other senses. Also, our original means of relating things now functions unconsciously and is always a part of the hidden background. This is true even for kinaesthetic learners because vision allows greater freedom and discrimination in movement and selectivity. What makes the whole problem even more

difficult is the invisible and unnoticed manner of kinaesthetic participation in the learning process.

Once the kinaesthetic learner traces the word long enough and says the word out loud by syllables, it becomes a part of his perceptual process or understanding. It becomes an extension of his own body movement. The word becomes real and meaningful to him in a way that cannot be equalled by a static visual image.

The importance of kinaesthesis is more easily demonstrated in the automobile. The car is so closely related to our freedom of movement, it can become an extension of ourselves. We have all seen the high school "teenager" who is the proud owner of a "hot rod." The car becomes a status symbol and an extension of his own personality and masculinity. The car may even be sexualized further by giving it two of everything. Every dime the teenager can get is spent on the car and he gives it two spotlights, two mufflers, two side view mirrors, and two carburetors. He will race his engine to attract attention and, at the drop of a hat, he will be willing to prove his car is faster and better. The importance of the car is not limited to teenagers, as all of us are aware of the impact of the Cadillac and the sport car on our culture.

A Parole Officer friend of mine lent his car to his

daughter on a temporary loan basis so she could drive to Junior College for several weeks. He can't get his car back as she feels he has given the car to her. She has obtained a proprietary interest in the car through her physical involvement in driving the car. It has become an extension of herself and therefore no longer Dad's. It would be unfair for him to want it returned.

My former landlady used to allow tenants to store extra possessions in the basement of the building. She would constantly rearrange and move the items in a neat and orderly fashion. After rearranging the items enough times, she developed a proprietary interest in these belongings. She would begin to feel the tenants didn't want these items because they were left there for such a long period. They were now hers to do with what she wanted. If you were not careful, she would give your things to her relatives, friends, or other tenants.

Many men have a pair of favorite worn-out shoes they like to wear when they are relaxing because they are so comfortable. These shoes, through constant wear and association, have taken on special significance. They have become like an old friend. It can almost be grounds for a divorce if the wife gives them away to the Salvation Army. The shoes have become an extension of his own body. They are his feet holders and as a result been personalized.

Sexual organs are also kinaesthetic areas of stimulation. Many men with strong intentions of never getting married, fall in love with a woman after becoming sexually involved. Symbolically, the woman becomes an extension of himself. She becomes an extension of his penis - his penis holder. The kinaesthetic stimulation has activated his lower brain centers and by-passed cortical inhibition. Learning has been enhanced and a psychological marriage performed. He is shortly walking down the path to the altar of marriage and all his plans to the contrary have gone astray.

Slang language used by men illustrates this point very clearly. In the gym or barracks such crude expressions as the following can be heard:. "A stiff prick has no conscience." "His balls must be bigger than his head." "He must be pussy whipped." This last term may be used to describe a male overly passive to a female. Our slang language already recognizes the importance of physical involvement in the learning process even though the educational establishment does not.

Items we manufacture through our own physical effort become much more valuable to us than other items many times more expensive. There is a kinaesthetic involvement that makes these items much more personal and important - almost

a part of ourselves. This point is carried over to artistic and intellectual levels.

Men may speak about their book, painting, or project they have produced through their own involvement as "THIS IS MY BABY." Great musicians can make their pianos, violins, or music instruments a part of themselves. The music takes on aspects of their personality and the instrument becomes a part of them. The instrument becomes an extension of them. Some artists can get so involved with their artistic creations, they cannot bear to part with them or even sell them for profit. They say it is like losing an arm or leg.

Marching in military organizations, singing, and group participation in rituals in church (kneeling, praying and making signs of the cross) are all kinaesthetic involvement that help make the individual a part of the group and a believer and supporter of the activity. This is all accomplished through physical involvement and conditioning at the same time. A psychological marriage is obtained in the use of kinaesthesis. (Proprioceptor stimulation)

A client of mine was a counselor in a boy's camp during the summer. The Director of the camp always had the counselors come up one week early. They were assigned projects, such as painting, repairing, and building. The Director felt this one week of work was the most important

thing he could do in the training of counselors for it made them feel part of the camp. As a result, there were more responsible and involved counselors.

A prominent psychologist and colleague of mine tried to break the smoking habit as it was dangerous to his health. He was smoking three packs a day. The physical movement of smoking had become such a part of him, he was not able to break the habit without continually holding some object in his hand, such as a pencil, key, or pen. Before he had broken the habit completely, he had gone through a dozen pencils. He had chewed the tops off.

Universities have a terrible time with their psychology books. Psychology students run off with them as fast as they can be replaced. Once they read the books, they hate to part with their education. Books are so important to their successful completion of school that having them in their possession is almost comparable to having the degree. This is true for some of my friends. They are completely trustworthy with everything except books. Reading, as well as all symbolic thought process, is a motor function. Once they have read the book, they hate to part with it. Books have become a part of their experience and themselves and, therefore, unconsciously they do not need to be returned. (Higher intellectual skills are related to basic motor development.)

Even though kinaesthetic involvement is unnoticed or unconscious, we are aware of it functioning in an indirect manner. Anyone who has thrown a ball, taken up bowling, or hit a golf ball will know immediately after completing the swing whether that ball is going to hit the target. Somehow we will know something was not quite right. The swing was a wild one. We know in advance whether the ball will hit the target or not because we unconsciously "feel" it in our movement.

Swords, knives, and guns are important to many men. They become symbols of their masculinity. These tools can increase and enhance effective body movement. They can become extensions of the body and increase man's means of maintaining control over his environment. Men as a group tend to average stronger kinaesthetic abilities than women. Some men are almost entirely dependent upon a kinaesthetic means of learning and dealing with the environment. As a result, knives and guns are much more popular with men than with women. (Men use greater proprioceptor stimulation)

This ability to make tools and machines or objects, extensions of man's own body or physical movement is spectacularly demonstrated in the operation of a bulldozer. Many operators of this giant earthmoving machine can handle this complicated piece of equipment as if it were

a baby carriage. They can cut to an exact inch of the surveyor's mark and move mountains of dirt or earth. They can move this machine back and forth as if it were a toy bicycle. This is true for drivers of large trucks and buses. They can squeeze their vehicle in and out of tight places that seem impossible to others without these skills.

Hitler, as well as many politicians and religious leaders, have effectively utilized kinaesthesis. When addressing his troops, Hitler had them under kinaesthetic strain. They would be standing in military formation at attention. They also would be looking at Hitler while he talked. Commands were frequently given changing their position from attention to parade dress and this was intermingled with numerous "Sig Heils." The conditioned behavior of responding to military commands was married to the message Hitler gave through one of many possible means of kinaesthetic involvement.

Kinaesthesis or proprioceptor stimulation is so vital and important to our successful engagement of the environment, we take it for granted. The knock-out blow to the jaw during a prize fight dramatically illustrates what happens when the organ of proprioceptor stimulation is knocked out of order. (The proprioceptors and the labyrinthine receptors in the head form one receptive

system.) When a man is reduced to a mass of flesh, unable to move, we have a picture of the importance of kinaesthesis to man in successfully engaging the environment. We also have a dramatic importance of kinaesthesis compared to vision. Knocking out vision does not immobilize man but malfunctioning of the organ of kinaesthesis does. The implications to education should be obvious.

We know when a Doctorial candidate for the Ph.D. cannot spell and must have a good secretary check the Dissertation before it can be submitted to the committee, one explanation must be the nature of man and the methods used in teaching reading and spelling. We need to condition all the other five senses to a basic kinaesthetic motor pattern. This will help eliminate many of the failures of learning in our public schools.

Our schools certainly have not effectively or fully utilized kinaesthesis or proprioceptor stimulation in their methods. Once they do, education can become a deadly weapon. Mind control, programing of the individual, and behavioral control are all real and distinct possibilities in the near future.

APPENDIX I

BRAINWASHING, NON-READERS, AND THE KNOCK-OUT BLOW

by

S. E. Caukins

Can Communistic techniques for brain washing, the knock-out blow in a boxing match, and non-readers somehow all be related in the functioning of the neural brain mechanisms involved?

The knock-out blow to the lower jaw during a boxing match dramatically illustrates the importance of proprioceptor stimulation and the related neural mechanisms. The lower jaw carries the concussion to the OTOCYST (the embryonic auditory vesicle--an organ containing calcareous grains like sand). In one moment, a strong athlete is reduced to a mass of flesh. He has not only lost his sense of balance, orientation to the environment, but also his ability to relate his physical movement to the outside world. The shock to the organ of the proprioceptor system has made him helpless.(8)

We know that there is no separation of mind and body. A shock to the body can develop from both psychological and physical causes. Immobilization of the proprioceptors, such as with patients with long-term hospital confinement to bed, an iron lung, or body cast, causes psychotic-like symptoms to appear, including anxiety, delusions, and hallucinations.

These symptoms do not respond to standard medical or psychiatric treatment but are easily alleviated by social contact or by sensory stimulation from a radio or television set (4).

In modern times, the classic punishment of solitary confinement has been combined with sleep deprivation and used in psychological warfare. Exhaustion and decreased sensory inputs are known to cause mental disturbances and reduce defense mechanisms. These procedures have been effectively manipulated during brainwashing or thought-reform procedures to indoctrinate prisoners (6), (9).

An important factor in all brainwashing procedures is the immobilization of proprioceptor stimulation or placement of the individual in proprioceptor, or kinaesthetic strain. Physical movement is restricted. The prisoner is unable to sit or lie down and his movement is further restricted by handcuffs or chains (7).

We know from the work of Fernald (3) that non-readers are particularly dependent upon kinaesthetic or proprioceptor stimulation in their learning processes. Once they use an appropriate kinaesthetic learning method, there is a learning spurt and their scholastic achievement is accompanied by success. These individuals tend to be non-visual in their approach to learning (2).

All of these previously discussed processes--the knock-out blow, brainwashing, and non-reading, have in common proprioceptor stimulation, or kinaesthesis. Obviously, we must be missing the importance of kinaesthesis not only in the learning process, but to the adjustment of an individual as a whole entity. It appears to be so important that it constitutes a sixth sense much more important than any of the other five senses.

Although functioning in an unnoticed manner, there is an organ of the body involved. The example of the knock-out gives us a concrete example of the importance of proprioceptor stimulation to the other five senses. When vision is knocked out, a person is severely disabled. However, proprioceptor malfunctioning knocks out the individual. He no longer can move in his environment nor successfully deal with important body support functions.

In our thinking, learning in the school room has been compartmentalized as something separate and unique. However, it must be considered as part of the individual's total adjustment to his environment, as well as to his success in academic subjects. Separating our thinking can lead us into difficulty and keep us from considering other factors important to the process. It has been found that movement is necessary

for man to manipulate his environment successfully and is also, therefore, necessary to his learning process. The understanding of how proprioceptor stimulation, or kinaesthesis, functions may help clarify this fundamental process in classroom learning procedures.

Sherrington states,

> the proprioceptors of the body the labrynthine receptors in the head appear to cooperate together and form functionally one receptive system. Destruction of the labryinthine in the fish, frog, pigeon, and the dog, produces not only malposture of the eyeball and the head but of the limgs and the body as a whole.
>
> The central organ where this takes place is the cerebellum. The central neural mechanism belonging to the proprioceptive system is preponderantly built up over the central connections of the proprioceptive organ belonging to the head. From there converge internuncial paths stretching to this mechanism from the central endings of the various proprioceptive neurones situated in all the segments of the body. There afferent contributions from receptors of the joints, muscles, ligaments, tendons, viscera, etc., combine with those from the muscular organs of the head and those of the labyrinthine receptors themselves. A Central nervous organ of high complexity results. Its size from animal species to animal species strikingly accords with the range and complexity of the habitual movements of the species. In other words, with the range and complexity of the habitual taxis of the skeletal musculatures. This central organ is the cerebellum. The cerebellum is the head or main ganglion of the proprioceptive system.
>
> Luciana, the universally acknowledged authority of the physiology of the cerebellum, describes it as the organ which by unconscious process exerts a continual reinforcing action of the activity of all other nerve centers. (8)

The importance to learning cannot be over-stated when we consider that the cerebellum exerts a continual reinforcing action on the activity of all other nerve centers. Proprioceptor stimulation, or kinaesthesis, can play a much more

important part in education that had been imagined previously. One of the characteristics of the cerebellum, as pointed out by Woodburne, is that the afferent fibers which leave the cerebellum make up one-third as many fibers as the number that enter it. This means that the cerebellum has a vital function in neural integration. The reduction from three to one in information channels must mean fusing, integration, and coding of several items into one for a single impulse to a muscle group (10).

However, we know that kinaesthesis is very important to the learning process, particularly for non-readers. Therefore, these functions go beyond movement in the cerebellum but must somehow have a relationship to the entire structure of the learning process. The accident of non-readers' occurrence has given us an opportunity to visualize or obtain information about a human being's entire learning process.

In the relation of the cerebellum to the cerebral cortex, there are not only connections by way of the thalamus to the precentral cortex, particularly to the motor cortex (area 4 of Brodmann), but there are also connections between cerebellar areas for touch, vision, audition, and possible proprioception, with the corresponding projection areas of the cerebral cortex. These connections run in both directions. In the maintenance of posture it seems clear that at least

three kinds of sensory information are needed. Upright posture cannot be maintained without visual information about equilibrium with the state of contraction from the muscle spindles concerned, and to so integrate these data as to be able to send out over the motor fibers a coded message which will maintain the upright posture over the desired period of time (10).

It is impossible to separate effective movement of the human being from any process of learning. We can now begin to see the primary importance of kinaesthesis to the learning process and the fundamental nature of its functioning.

The research of Snider and his associates has established the fact that stimulation of receptors of (1) touch, (2) sight, and (3) hearing resulted in recorded potentials in the cerebellum as well as in the primary receptive areas of the cerebral cortex; vision and hearing being recorded in the central vermis, while touch was recorded both anteriorly and posteriorly. In addition to touch, vision, and audition, the cerebellum handles information about equilibrium, the state of muscles and joints, and, in addition, has a loop connection to the motor area of the cerebral cortex (10).

The importance of proprioceptor stimulation or kinaesthesis to learning and its inter-relationship to vision and hearing has been well documented in scientific research. This

fundamental importance to kinaesthesis seems to be emphasized by Delgato who states that the individual acts on his environment before he reacts to his environment (1). Langworthy found those sensory paths subserving kinaesthetic and tactile activities are the first to complete myelinization. Even the influence of visual percepts of the body must be considered as subsidiary to the kinaesthetic and tactile (4).

The neurological study of the human mind would seem to support indirectly the inter-relationship of brainwashing, the knock-out blow in the boxing match, and the cultural accident of non-readers. We need to place a greater emphasis on kinaesthesis in the classroom. This may require a complete change of all present techniques in teaching reading and spelling, and the re-training of elementary teachers, particularly in the first, second, and third grades. We cannot afford to ignore kinaesthesis and its important function in learning and sensory inputs. As Delgato says, "Cerebral activity is essentially dependent on sensory inputs from the environment not only at birth but also throughout life. Normal mental functions cannot be preserved in the absence of a stream of information from outside (1).

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